MAR 1956

MEMORANDUM FOR: Assistant Director, Scientific Intelligence

SUBJECT : Survey of Soviet Civilian Short-wave Broadcast Receiver Production

REFERENCE : Memorandum from AD/SI dated 24 Jan. 1956

In response to referenced memorandum attached hereto is an ORR report estimating the number of Soviet short-wave broadcast radio receivers produced from 1945 through 1956 and the number of receivers in use.

25X1A [redacted]

OTTO E. GUTHE
Assistant Director
Research and Reports

Enclosure:
Survey of Soviet Civilian Short-wave Broadcast Receiver Production

IP 433
30.1036

25X1A
St/PC:RR [redacted]:mf

Distribution:
O & 1 Addressee
2 - AD/RR
2 - St/PC

SECRET

NOFORN

23 MAR 1956

25X1A

MEMORANDUM FOR: [redacted]

SUBJECT : Survey of Soviet Civilian Short-wave Broadcast Receiver Production

Knowing the strong interest of your office in the subject of listener potential in Soviet Bloc countries, I am forwarding, herewith, for your information, a copy of subject report which was prepared in response to a request from the Assistant Director for Scientific Intelligence

25X1A

[redacted]

OTTO E. GUTHE
Assistant Director
Research and Reports

Enclosure:
Survey of Soviet Civilian Short-wave Broadcast Receiver Production

IP 433
30.1036

25X1A

St/PC:RR [redacted]:mf

Distribution:
O & 1 - Addressee
2 - AD/RR
2 - St/PC

SECRET

NOFORN

IP-433

S-E-C-R-E-T

CENTRAL INTELLIGENCE AGENCY
Office of the Chief, Economic Research
Office of Research and Reports

Project Action Memorandum

Project No. 30.1036

Date: 1 February 1956

TITLE: Survey of Soviet Civilian Short-wave Radio Production

REQUESTER: [redacted] 25X1A

STATEMENT OF THE PROBLEM AND TERMS OF REFERENCE:

Problem: To estimate the number of high-frequency radio receivers produced from 1945 through 1956, and the number of receivers in use.

Terms of Reference: An official document is required by TEAC in support of an evaluation of the effectiveness of US international broadcasting. (See memo dated 24 Jan 56 from AD/SI)

RESPONSIBILITY:		Man-hours	Due Dates	Concurrence (Initials)
Action Division:	D/I		15 Mar 56	
Branch:	I/EE	50		
Contributing Division:	D/S		12 Mar 56	
Branch:	S/COM	10		
Staff:	St/PR			
Principal Analyst:	[redacted]		25X1A	
Project Monitor:	[redacted] x2803		25X1A	

This project will delay completion of previously scheduled project no. 36.597. by one month.
The classification of this project will be no higher than SECRET.

APPROVED _____ Ch/E

S-E-C-R-E-T

Assistant Director for Research and Reports 16 March 1956
THRU :Chief, Economic Research
THRU :Chief, Industrial Division
Acting Chief, Electrical Equipment Branch

Project ORR 30.1036, Survey of Soviet Civilian Short-wave Radio Production

Subject project, containing information requested by AD/SI is attached. Project was accomplished by D/I, I/EE with D/S, S/COM contributing.

25X1A

25X1A [redacted]

ORR/D/I [redacted] eeh/3697 (15 Mar 56)

Survey of Soviet Civilian Short-wave Broadcast Receiver Production

PROBLEM

To estimate the number of Soviet short-wave broadcast radio receivers produced from 1945 through 1956, and the number of receivers in use.

CONCLUSIONS

1. Total production of civilian broadcast receivers, of all types, produced by the USSR, during the period 1945 through 1956, is estimated to be 17,897,000 units.

2. Production of receivers capable of reception of the short-wave bands is estimated to total 5,514,000.

3. Production total capable of reception through the 15.0 megacycle band is estimated at 960,000.

4. Production total capable of reception through the 17.0 megacycle band is estimated at 454,000.

5. There are no indications of broadcast receivers capable of reception of the 21.0 and 26.0 megacycle bands having been produced in the USSR.

6. By the end of 1956, it is estimated 6,800,000 broadcast receivers will be in use in the USSR. Distribution probably follows the population distribution with the better classes of receivers being found in the large cities and political centers. Distribution of receivers by frequency reception capability cannot be determined from available information.

DISCUSSION AND METHODOLOGY

USSR broadcast receiver production estimates, for the years 1945 through 1956, are presented in Table 1. Estimates are based on Soviet announcements of claimed production, planned production, or claimed percentage increases. Limited information on plants and products in this field, particularly in recent years, cannot support an independent estimate; however, from available information it appears Soviet announcements are reasonable. Analysis of the USSR electronics industry indicates the USSR is capable of accomplishing estimated production. 1/

Soviet receivers capable of receiving short-wave bands are limited to Classes 1, 2 and 3. Approximately 20 percent of Class 3, and all of the Class 4, unclassified, and crystal receivers are not capable of short-wave reception.

Estimated production of Class 1, 2 and 3 receivers amounts to 6,223,000, of which 5,514,000 are capable of short-wave reception. Table 2 presents production estimates of the three classes for the years 1945 through 1956. 2/

USSR production of receivers capable of reception of frequencies over 12 megacycles was restricted after 1953. The portion of receivers produced prior to 1954 possessing 15 and 17 megacycle reception capability is therefore greater than those produced during the period 1954 through 1956. Table 3 presents quantity estimates of 15 and 17 mc receivers produced in the two periods, by Class. Percentages which have been applied to the three classes of receivers to estimate quantities were assigned on the basis of characteristics of known types of receivers, weighted in favor of receivers believed to have been produced in the greatest quantities. 3/

Total receivers produced for the period 1945 through 1956, of the 15 mc type is estimated to be 538,000 and of the 17 mc type, 422,000. Total receivers capable of reception in the 15 mc band is therefore the sum of the 15 and 17 mc types, or 960,000.

The bulk of receiver production occurred during the 1954 through 1956 period which is also the period for which receiver type mix and characteristics information is weakest. Estimates of the production of the 15 and 17 mc type receivers as presented, are considered to be maximum values with a tolerance on the negative side of approximately 20 percent.

Estimates of "in use" radio broadcast receivers for the years 1945 through 1956 are presented in Table 4. Margin of error for these estimates is considered to be plus or minus 20 percent. 4/

The divergence of estimates of total receiver production for the period and the total in use by the end of 1956 cannot be satisfactorily explained. Terminology used by the Soviets in presenting production and "in use" quantities of receivers is not clear, and may purposely be misleading. Production estimates as presented are probably as reliable as the estimate of receivers in use, if such a comparison can be made. Inaccuracy of one or both estimates could be the cause for the wide difference; however, it is more likely due to a number of factors contributing to consumption of the total receivers produced.

USSR exports to other Bloc countries, North Korea, the Near East, and South East Asia may account for a considerable portion of the divergence of production versus "in use" estimates. Stockpiling and store shelves stock probably account for a portion of the produced total which could not be considered "in use". Receivers which have been retired or are inoperative are considered to account for a major portion of total produced. Class 4 and crystal set receivers produced for the period amounted to over 11,000,000 which would be the most likely group to have been retired. Radio receivers which are used in conjunction with radio relay centers and those used as an outlet terminal speaker accounts for a considerable number of receivers which may not be considered in the definition of radio broadcast receivers proper, as presented by Soviet announcements. 4/

Table 1

Estimate of USSR Radio Broadcast Receiver Production

Year	Thousand Numbers Produced
1945	100
1946	272
1947	314
1948	518
1949	856
1950	1,042
1951	1,210
1952	1,285
1953	1,630
1954	2,870
1955	3,500
1956	4,300
TOTAL	17,897

Table 2

Class 1, 2 and 3 Production Estimates

Year	Class 1	Class 2	Class 3
			Thousand
1945	9	55	31
1946	19	130	110
1947	22	135	125
1948	21	145	175
1949	17	170	180
1950	21	52	63
1951	24	48	60
1952	39	102	64
1953	65	163	261
Sub-total 1945-53	237	1,000	1,069
1954	186	186	575
1955	245	245	805
1956	300	300	1,075
Sub-total 1954-56	731	731	2,455
GRAND TOTAL 1945-56	968	1,731	3,524

Table 3

Estimate of 15 and 17 Megacycle Receivers Produced by Period and Class

	Thousand	
	15 mc	17 mc
Class 1:		
1945 through 1953	78	71
1954 through 1956	110	95
Class 2:		
1945 through 1953	200	160
1954 through 1956	None	None
Class 3:		
1945 through 1953	150	96
1954 through 1956	None	None
TOTAL	538	422

Table 4

Estimate of USSR Radiobroadcast Receivers In Use

1945-1956

	Thousand
1945	1,000
1946	1,325
1947	1,700
1948	2,100
1949	2,650
1950	3,250
1951	3,850
1952	4,550
1953	5,100
1954	5,550
1955	6,150
1956	6,800

Sources

1. CIA/RR 11-6-1, 13 Dec 54, Production of Civilian Radio and TV Receivers in the Soviet Bloc, S/OFF USE

   Air, AIS 3-8, Apr 54, A Strategic Vulnerability Study of the Radio and Television Industry of the USSR and Satellites, S

STATSPEC

[redacted]

25X1C CIA/RR Project 36.518, 22 Jun 55, Trends in the Sino-Soviet Bloc Electro-technical Industry, p. 25, S/NOFORN

[redacted]

2. CIA/RR 11-6-1, op. cit., p. 11

   CIA/SI 82-52, 1 Dec 52, Study of USSR Broadcast Receivers, p. 7, S

STATSPEC

   CIA/RR PR-82, 21 Oct 54, Foreign Radiobroadcasting Reception Potential in the USSR, S/OFF USE, p. 80

3. [redacted]

25X1C 25X1A

[redacted]

STATSPEC

4. [redacted]

   CIA, S/COM contribution to ONR Project 30.1036, 14 Mar 56, Survey of Soviet Civilian Short-wave Radio Receiver Production and Number in Use, S/NOFORN

   CIA/RR PR-82, op. cit.